AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a plurality of modes and corners;

saving intermediate results from the multiple static timing analysis runs; and

analyzing the intermediate results to construct merged results, the merged results ~~providing~~ outputting at least one of the following metadata: what parts of the design have not been analyzed~~,~~ and whether the design has been exhaustively analyzed for a particular corner/mode~~, and whether the design has been exhaustively analyzed for all corners/modes~~.

2. (Cancelled)

3. (Original) The method of Claim 1, wherein the multiple static timing analysis runs share information.

4. (Original) The method of Claim 1, wherein the multiple static timing analysis runs are performed in parallel.

5. (Original) The method of Claim 1, wherein the multiple static timing analysis runs are performed in series.

6. (Previously Presented) The method of Claim 1, wherein saving intermediate results includes forming a database that can be queried at different levels of detail.

7. (Previously Presented) The method of Claim 6, wherein saving intermediate results includes restoring the database and making additional queries.

8. (Original) The method of Claim 7, wherein the additional queries can be made from one or more runs.

9. (Previously Presented) The method of Claim 8, wherein each query adds additional results to the saved intermediate results of each run.

10-11. (Cancelled)

12. (Previously Presented) The method of Claim 1, wherein the saved intermediate results support arbitrary queries.

13. (Original) The method of Claim 12, wherein the intermediate results include a predetermined set of parameters that are used in creating additional results.

14. (Previously Presented) The method of Claim 1, wherein the saved intermediate results include results of predetermined queries.

15. (Previously Presented) The method of Claim 1, wherein the saved intermediate results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths,

modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

16. (Original) The method of Claim 1, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

17. (Previously Presented) The method of Claim 1, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

18. (Previously Presented) The method of Claim 17, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing a design optimization.

19. (Previously Presented) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a plurality of modes and a corners;

saving intermediate results from the multiple static timing analysis runs; and

analyzing the intermediate results to construct merged results, wherein desired information regarding a predetermined set of modes/corners can be merged before other information,

wherein the merged results indicate at least one of: what parts of the design have not been analyzed, whether the design has been exhaustively analyzed for a particular corner/mode, and whether the design has been exhaustively analyzed for all corners/modes.

20-24. (Cancelled)

25. (Currently Amended) A computer-readable medium comprising instructions, that when executed by a processor, provide instructions for generating merged results from multiple static timing analysis runs, the instructions comprising:

a first set of instructions for performing the multiple static timing analysis runs with a design, each run using a predetermined set of parameters including a plurality of modes and corners;

a second set of instructions for saving intermediate results from the multiple static timing analysis runs; and

a third set of instructions for analyzing the intermediate results to automatically construct and output merged results, the merged results providing analysis coverage, path information at multiple levels of detail, and user-selected accessibility to the merged results, the merged results indicating at least one of: what parts of the design have not been analyzed~~,~~ and whether

the design has been exhaustively analyzed for a particular corner/mode~~, and whether the design has been exhaustively analyzed for all corners/modes~~.

26. (Cancelled)

27. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for sharing information between the multiple static timing analysis runs.

28. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for performing the multiple static timing analysis runs in parallel.

29. (Previously Presented) The computer-readable medium of Claim 25, further comprising a fourth set of instructions for performing the multiple static timing analysis runs in series.

30. (Previously Presented) The computer-readable medium of Claim 25, wherein the second set of instructions for saving intermediate results includes instructions for forming a database that can be queried at different levels of detail.

31. (Cancelled)

32. (Previously Presented) The computer-readable medium of Claim 25, wherein the first set of instructions for performing the multiple static timing analysis runs includes instructions that allow multiple modes and corners to be analyzed simultaneously.

33. (Previously Presented) A computer-readable medium comprising instructions, that when executed by a processor, provide instructions for generating merged results from multiple static timing analysis runs, the instructions comprising:

a first set of instructions for performing the multiple static timing analysis runs with a design, each run using a predetermined set of parameters including a plurality of modes and corners;

a second set of instructions for saving intermediate results from the multiple static timing analysis runs;

a third set of instructions for analyzing the intermediate results to construct merged results, the merged results indicating at least one of: what parts of the design have not been analyzed, whether the design has been exhaustively analyzed for a particular corner/mode, and whether the design has been exhaustively analyzed for all corners/modes; and

a fourth set of instructions for merging desired information regarding a predetermined set of modes/corners before merging other information.

34. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:

performing at least one static timing analysis run with the design, each run using a predetermined set of parameters including a plurality of modes and corners;

saving intermediate results from each static timing analysis run to external storage;

reading sets of saved intermediate results;

analyzing the saved intermediate results to construct merged results that provide analysis coverage and path information at multiple levels of detail; and

reporting the merged results, the merged results indicating at least one of: what parts of the design have not been analyzed~~,~~ and whether the design has been exhaustively analyzed for a particular corner/mode~~, and whether the design has been exhaustively analyzed for all corners/modes~~.

35. (Previously Presented) The method of Claim 34, wherein saving intermediate results includes forming a database that can be queried at different levels of detail.

36. (Previously Presented) The method of Claim 35, wherein saving intermediate results further includes restoring the database and making additional queries.

37. (Original) The method of Claim 36, wherein the additional queries can be made from one or more runs.

38. (Previously Presented) The method of Claim 37, wherein each query adds additional results to the saved intermediate results of each run.

39. (Previously Presented) The method of Claim 34, wherein the saved intermediate results support arbitrary queries.

40. (Previously Presented) The method of Claim 39, wherein the saved intermediate results include a predetermined set of parameters that are used in creating additional results.

41. (Previously Presented) The method of Claim 34, wherein the saved intermediate results include results of predetermined queries.

42. (Previously Presented) The method of Claim 34, wherein the saved intermediate results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

43. (Original) The method of Claim 34, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

44. (Cancelled)

45. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a plurality of modes and corners;

saving intermediate results from the multiple static timing analysis runs; and

analyzing the intermediate results to construct merged results, the merged results providing path information at multiple levels of detail and user-selected accessibility to the merged results,

wherein the merged results indicate at least one of: what parts of the design have not been analyzed~~,~~ and whether the design has been exhaustively analyzed for a particular corner/mode~~, and whether the design has been exhaustively analyzed for all corners/modes~~.

46. (Cancelled)

47. (Previously Presented) The method of Claim 45, wherein the multiple static timing analysis runs share information.

48. (Previously Presented) The method of Claim 45, wherein the multiple static timing analysis runs are performed in parallel.

49. (Previously Presented) The method of Claim 45, wherein the multiple static timing analysis runs are performed in series.

50. (Previously Presented) The method of Claim 45, wherein saving intermediate results includes forming a database that can be queried at different levels of detail.

51. (Previously Presented) The method of Claim 50, wherein saving intermediate results includes restoring the database and making additional queries.

52. (Previously Presented) The method of Claim 51, wherein the additional queries can be made from one or more runs.

53. (Previously Presented) The method of Claim 52, wherein each query adds additional results to the saved intermediate results of each run.

54. (Cancelled)

55. (Previously Presented) The method of Claim 45, wherein the saved intermediate results support arbitrary queries.

56. (Previously Presented) The method of Claim 55, wherein the saved intermediate results include a predetermined set of parameters that are used in creating additional results.

57. (Previously Presented) The method of Claim 45, wherein the saved intermediate results include results of predetermined queries.

58. (Previously Presented) The method of Claim 45, wherein the saved intermediate results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths,

modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

59. (Previously Presented) The method of Claim 45, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

60. (Previously Presented) The method of Claim 45, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

61. (Previously Presented) The method of Claim 60, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing a design optimization.

62. (Previously Presented) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with the design, each run using a predetermined set of parameters including a plurality of modes and corners;

saving results from the multiple static timing analysis runs; and

analyzing the saved results to construct merged results, the merged results providing analysis coverage that reports parts of the design that are analyzed for each mode and corner as well as parts of the design that are not analyzed for each mode and corner.

63. (Cancelled)

64. (Previously Presented) The method of Claim 62, wherein the multiple static timing analysis runs share information.

65. (Previously Presented) The method of Claim 62, wherein the multiple static timing analysis runs are performed in parallel.

66. (Previously Presented) The method of Claim 62, wherein the multiple static timing analysis runs are performed in series.

67. (Previously Presented) The method of Claim 62, wherein saving intermediate results includes forming a database that can be queried at different levels of detail.

68. (Previously Presented) The method of Claim 67, wherein saving intermediate results includes restoring the database and making additional queries.

69. (Previously Presented) The method of Claim 68, wherein the additional queries can be made from one or more runs.

70. (Previously Presented) The method of Claim 69, wherein each query adds additional results to the saved intermediate results of each run.

71. (Cancelled)

72. (Previously Presented) The method of Claim 62, wherein the saved intermediate results support arbitrary queries.

73. (Previously Presented) The method of Claim 72, wherein the saved intermediate results include a predetermined set of parameters that are used in creating additional results.

74. (Previously Presented) The method of Claim 62, wherein the saved intermediate results include results of predetermined queries.

75. (Previously Presented) The method of Claim 62, wherein the saved intermediate results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required

times, a timing window, crosstalk delays, and operating conditions.

76. (Previously Presented) The method of Claim 62, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

77. (Previously Presented) The method of Claim 62, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

78. (Previously Presented) The method of Claim 77, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing an analysis to provide a design optimization.

79-82. (Cancelled)

83. (Currently Amended) A method of performing static timing analysis on a design, the method comprising:

performing multiple static timing analysis runs with paths of the design, each run using a predetermined set of parameters including a plurality of modes and corners;

saving intermediate results from the multiple static timing analysis runs; and

analyzing the intermediate results to construct merged results, the merged results indicating for each path a percentage of times that timing violations exist for all analyzed modes and corners.

84. (Previously Presented) The method of Claim 83, wherein the multiple static timing analysis runs are performed in parallel.

85. (Previously Presented) The method of Claim 83, wherein the multiple static timing analysis runs are performed in series.

86. (Previously Presented) The method of Claim 83, wherein saving intermediate results includes forming a database that can be queried at different levels of detail.

87. (Previously Presented) The method of Claim 86, wherein saving intermediate results includes restoring the database and making additional queries.

88. (Previously Presented) The method of Claim 87, wherein the additional queries can be made from one or more runs.

89. (Previously Presented) The method of Claim 88, wherein each query adds additional results to the saved intermediate results of each run.

90. (Previously Presented) The method of Claim 83, wherein the saved intermediate results support arbitrary queries.

91. (Previously Presented) The method of Claim 90, wherein the intermediate results include a predetermined set of parameters that are used in creating additional results.

92. (Previously Presented) The method of Claim 83, wherein the saved intermediate results include results of predetermined queries.

93. (Previously Presented) The method of Claim 83, wherein the saved intermediate results include at least one of cell delays, net delays, transition times, a timing graph, a parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves, noise slack, current density, application attributes, user attributes, cells, nets, an analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

94. (Previously Presented) The method of Claim 83, further including reporting the merged results, wherein the reported results include at least one of cell delays, net delays, transition times, timing graph, parasitic network, path reports, bottleneck reports, a noise bump height, a noise bump width, a noise peak time, aggressors, victims, noise rejection curves,

noise slack, current density, application attributes, user attributes, cells, nets, analysis coverage, profiling of endpoints, profiling of paths, modes, case analysis propagation, design corner description, slack, design cost, constraints, annotations, combinational loops, clock re-convergence points, arrival times, required times, a timing window, crosstalk delays, and operating conditions.

95. (Previously Presented) The method of Claim 83, wherein performing the multiple static timing analysis runs allows multiple modes and corners to be analyzed simultaneously.

96. (Previously Presented) The method of Claim 95, further including modifying a predetermined set of parameters after completing an initial multi-mode/multi-corner analysis, and performing a design optimization.